

TITLE OF INVENTION:

Fire Protection Sprinkler

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BACKGROUND-FIELD OF INVENTION

This invention relates to fire protection, specifically, portable roof top sprinklers.

BACKGROUND-DESCRIPTION OF PRIOR ART

Current methods used to prevent houses from burning during a fire is to place a standard lawn sprinkler and hope it doesn't turn over. The current roof top sprinklers as seen in U.S. Patent No. 8,24,020 issued to Randall Harward on April 25, 1989, cannot be adjusted to the angle of different roof structures, causing the system to tip over and become useless in its purpose. Installing a sprinkler system within the construction of the roof top as seen in U.S. Patent No. 5,263,543 issued to Ralph Nigro on November 23, 1993, could interfere with the integrity of the house if a leak should occur, causing costly damage to the structure before it would be detected.

OBJECTS AND ADVANTAGES

Accordingly, several objects and advantages of this invention are:

- a. To provide a portable fire protection system.
- b. To provide a portable fire protection system that is inexpensive.
- c. To provide a portable fire protection system that can be mounted on different types of surfaces.

- d. To provide a portable fire protection system that can be mounted on different shapes of surfaces.
- e. To provide a portable fire protection system that can be manufactured from readily available materials.
- f. To provide a portable fire protection system that can be mass produced using current manufacturing procedures.

SUMMARY OF INVENTION

The present invention is a fire protection system which can be mounted on any uneven or odd shaped surface of a roof without requiring any additional mounting apparatus. The fire protection system has a plurality of sprinkler assemblies connected together in series. Each sprinkler assembly has a water manifold pipe, a pair of U-shaped supports, and a sprinkler head connected to the water manifold pipe. Each U-shaped support has a pair of legs with support rotator discs affixed to upper ends of the legs for pivotally connecting the U-shaped supports to the water manifold pipe. The manifold pipe extends through manifold rotator discs affixed thereto. Locking bolts extend through respective semi-circular slots formed in the rotator discs of the U-shaped supports and the manifold rotator discs for locking the U-shaped supports in a selected pivotal angle of adjustment. During use, the support legs of the front and rear U-shaped supports are supported by front and rear roof sections of a house with the apex of the roof extending between the pair of U-shaped supports.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows a perspective view of the fire protection system.

Fig. 2 shows an exploded perspective view of the fire protection system.

Fig. 3 shows a perspective view of the Water manifold assembly with a sprinkler head attached.

Fig. 4 shows a perspective view of the outside stand assembly with rotator plates attached.

Fig. 5 shows a perspective view of the inside stand assembly with rotator plates attached.

Fig. 6 shows a perspective view of a multitude of fire protection systems attached to the roof of a house with a spray of water emitting from the spray heads.

REFERENCE NUMERALS IN DRAWINGS

18 Fire Protection Sprinkler system

20 Water manifold

22a Left side rear support rotator disc

22b Right side rear support rotator disc

23a Left side rear support rotator disc slot

23b Right side rear support rotator disc slot

24a Left side front support rotator disc

24b Right side front support rotator disc

25a Left side front support rotator disc slot

25b Right side front support rotator disc slot

26a Left side water manifold rotator disc

26b Right side water manifold rotator disc

27a Left side water manifold rotator disc slot

27b Right side water manifold rotator disc slot

28 Water manifold connecting plug

30a Left side threaded nut

30b Right side threaded nut

32a Left side bolt

32b Right side bolt

34 Sprinkler head assembly

36 Water manifold hose bib assembly

40 Water manifold to sprinkler assembly connector tee

42a Left side rear support leg

42b Right side rear support leg

44a Left side rear support leg adjuster tube

44b Right side rear support leg adjuster tube

46a Left side rear support leg adjuster lock device

46b Right side rear support leg adjuster lock device

48a Left side rear support adjuster leg

48b Right side rear support adjuster leg

49a Left side and Right side rear support leg connector

49b Left side and Right side front support leg connector

50a Left side front support leg

50b Right side front support leg
51a Left side front support leg adjuster tube
51b Right side support leg adjuster tube
52a Left side front support leg adjuster lock device
52b Right side front support leg adjuster lock device
53a Left side front support leg adjuster
53b Right side front support leg adjuster
54 House
55 Water Spray

DETAILED DESCRIPTION

The preferred embodiment of the Fire Protection Sprinkler system of the present invention is illustrated in Fig.1, a perspective view of the fire protection system. The water manifold 20 freely supports the left side rear support rotator disc 22a, right side rear support rotator disc 22b, left side front support rotator disc 24a, and right side front support rotator disc 24b at the through hole at approximately the center of the diameter of the discs. The planer surface of the left side rear support rotator disc 22a, right side rear support rotator disc 22b, left side front support rotator disc 24a, right side front support rotator disc 24b are positioned perpendicular to the surface of the water manifold 20. The left side rear support rotator disc 22a and left side front support rotator disc 24a are positioned to the left side of the water manifold 20 closest to the water manifold

hose bib assembly 36. The right side rear support rotator disc 22b and right side front support rotator disc 24b are positioned at the right side of the water manifold 20 closest to the water manifold connection plug 28. The left side water manifold rotator disc 26a, is fixed securely at the left side of the water manifold 20 so that the rotational movement along the linear axis of water manifold 20 is transferred to the axis of the left side water manifold rotator disc 26a. The right side water manifold rotator disc 26b, is fixed securely on the right side of the water manifold 20 so that the rotational movement along the linear axis of the water manifold is transferred to the axis of the right side water manifold rotator disc 26b. The left side front support rotator disc 24a is sandwiched between the left side rear support rotator disc 22a and the left side water manifold rotator disc 26a. The left side bolt 32a passes through slots 23a, 25a, and 27a with the left side nut 30a screwing onto the left side bolt 32a. This applies a clamping force to the planer surfaces of the left side rear support rotator disc 22a, left side front support rotator disc 24a, left side water manifold rotator disc 26a, thus restricting the rotational movements of the left side disc assembly. The right side front support rotator disc 24b is sandwiched between right side rear support rotator disc 22b and right side water manifold rotator disc 26b.

Right side bolt 32b passes through slots 23b, 25b, 27b with right side nut 30b screwing onto right side bolt 32b thus applying clamping force to the planer surfaces of right side rear support rotator disc 22b, right side front support rotator disc 24b, right side water manifold rotator disc 26b, restricting the rotational movements of right side rear support rotator disc 22b, right side front support

rotator disc 24b, right side water manifold rotator disc 26b securing right side rear support rotator disc 22b, right side front support rotator disc 24b, right side water manifold rotator disc 26b from any movements about the planer surfaces of right side rear support rotator disc 22b, right side front support rotator disc 24b, right side water manifold rotator disc 26b.

Leg 42a and 42b are connected at the end portion of the leg to the end portions of rear leg support connector 49a forming a u-shape support member. The remaining end of the leg 42a is attached securely to the outer diameter of the left side rear support rotator disc 22a at a point opposite the slot 23a on the left side rear support rotator disc 22a. The remaining end of the leg 42b is attached to the outer diameter of right side rear support rotator disc 22b at a point opposite the slot 23b on right side rear support rotator disc 22b. Legs 50a and 50b are connected at the end portion of the leg to the end portions of front leg support connector 49b forming a u-shape support member. The remaining end of the leg 50a is attached securely to the outer diameter of the left side front support rotator disc 24a at a point opposite the slot 25a on the left side front support rotator disc 24a. The remaining end of the leg 50b is attached to the outer diameter of the right side front support rotator disc 24b at a point opposite the slot 25b on right side front support rotator disc 24b.

Left side rear support leg adjuster tube 44a is permanently attached to the left side rear support leg 42a, facing out at the lower portion of the left side rear support leg 42a. Left side rear support adjuster leg 48a is inserted through the left side rear support leg adjusted tube 44a. The diameter of the left side rear

support adjuster leg 48a is sufficiently smaller in diameter than the diameter of the left side rear support leg adjuster tube 44a. This allows the left side rear support leg adjuster 44a to move freely in the left side rear support leg adjuster tube 44a.

When the left side rear support adjuster leg 48a is positioned where it is in the correct location the locking device 46a locks the left side rear support adjuster leg 48a in place. Right side rear support leg adjuster tube 44b is permanently attached to the right side rear support leg 42b, facing out at the lower portion of the right side rear support leg 42b. Right side rear support adjuster leg 48b is inserted through the right side rear support leg adjuster tube 44b. The diameter of the right side rear support adjuster leg 48b is sufficiently smaller in diameter than the diameter of the right side rear support leg adjuster tube 44b. This allows the right side rear support leg adjuster 48b to move freely in the right side rear support leg adjuster tube 44b. When the right side rear support adjuster leg 48b is positioned where it is in the correct location the locking device 46b locks the right side rear support adjuster leg 44b in place. Right side front support leg adjuster tube 51b is permanently attached to the right side front support leg adjuster 53b, facing out at the lower portion of the right side front support leg 50b. Right side front support leg adjuster 53b is inserted through the right side front support leg adjuster tube 51b. The diameter of the right side front support leg adjuster 53b is sufficiently smaller in diameter than the diameter of the right side front support leg adjuster tube 51b. This allows the right side

front support leg adjuster 53b to move freely in the right side front support leg adjuster tube 51b.

When the right side front support leg adjuster 53b is positioned where it is in the correct location the locking device 52b locks the right side front support leg adjuster 53b in place. Left side front support leg adjuster tube 51a is permanently attached to the left side front support leg adjuster 53a, facing out at the lower portion of the left side front support leg 50a. Left side front support leg adjuster 53a is inserted through the left side front support leg adjuster tube 51a. The diameter of the left side front support leg adjuster 53a is sufficiently smaller in diameter than the diameter of the left side front support leg adjuster tube 51a. This allows the left side front support leg adjuster 53a to move freely in the left side front support leg adjuster tube 51a. When the left side front support leg adjuster 53a is positioned where it is in the correct Location the locking device 52a locks the right side front support leg adjuster 53a in place.

The fire protection sprinkler system water manifold of the present invention is illustrated in Fig.3. The left side water manifold rotator disc 26a is showing the left side water manifold rotator disc slot 27a near the outer edge of the planer surface of the left side water manifold rotator disc 26a. The right side water manifold rotator disc 26b is showing the right side water manifold rotator disc slot 27b near the outer edge of the planer surface of the right side water manifold rotator disc 26b The water manifold sprinkler assembly connector tee 40 is secured to the water manifold 20 facilitating the attachment of the sprinkler head assembly 34.

A perspective view is illustrated in Fig 6 showing a multitude of Fire Protection Systems 18 attached to the roof of a house 54 with a spray of water 55 emitting from the spray heads of the fire protection sprinkler systems 18.

Accordingly, the reader will see that the fire protection system of this invention can be used conveniently, inexpensively and can be set up quickly. It can be made of different materials. It can be made using different dimensions, such as, making it taller, shorter, wider, narrower, lighter, heavier, or in whatever configurations not stated. It allows for an easy and quick setup in emergency situations. Although the description above contains much specificity, these should not be construed as limiting the scope of the invention, but as merely providing illustrations of some of the presently preferred embodiments of this invention. For example, the water delivery system can range from the standard tap water supply to a pressurized, electronically controlled, or a liquid filled tank system. Thus, the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given.